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# USSR Report

ECONOMIC AFFAIRS

(FOUO 10/91)



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REGIONAL DEVELOPMENT

HIGH OFFICIAL DISCUSSES AZERBAIJAN ECONOMIC DEVELOPMENT, PLANNING

Baku NARODNOYE KHOZYAYSTVO AZERBAYDZHANA in Russian No 3, Mar 81 pp 1-9

/Article by Deputy Chairman of the Azerbaijan SSR Council of Ministers and Chairman of the Azerbaijan SSR Gosplan S. K. Abbasaliyev: "Urgent Problems of National Economic Planning at the Present Stage"

/Text Our country is marking the 60th anniversary of the founding of Gosplan and planning organs at a memorable time. This anniversary coincided with the time of the holding of the historic 26th party congress, which established the great tasks of the building of communism at the present stage.

The program of socio-economic development, which was outlined by the congress in conformity with the economic strategy of the party, was established with allowance made for the more complete utilization of the created economic, scientific and technical potential. This places upon planning organs greater responsibility in the matters of seeking and utilizing the deep-seated reserves of the effective increase of social production.

The decisions of the 26th CPSU Congress and the 30th Congress of the Communist Party of Azerbaijan face the republic Gosplan and its organs locally with the task of the skillful bringing into play of the available potentials of economic growth and the increase of the efficiency and quality of work in the interests of the further increase of the well-being of the workers.

The far-reaching gains in economic and social development, which have been made by the Soviet people, are connected to a decisive extent with the consistent implementation of Lenin's ideas of socialist planning. The planned management of the national economy of the country, which has been carried out for 60 years, has made it possible to ensure the unprecedented growth of productive forces and on this basis to achieve a sharp increase of the level of well-being of the people. In ascending the steps of the five-year plans, our country is steadily moving toward the heights of communism and is becoming more and more powerful and more beautiful.

The Azerbaijan SSR as a component of the national economic complex of the country has covered the same path of development and has gone through the same stages of planning.

With the triumph of Soviet power in April 1920 a new stage in the creation of the foundations of socialist planning began in Azerbaijan.

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The Supreme Economic Council attached to the republic Council of People's Commissars, which played an important role in the organization of the foundations of centralized planned management, was formed in 1921. On 19 October 1921 a general planning commission was organized within the Supreme Economic Council attached to the Azerbaijan SSR Council of People's Commissars. During those years the feasibility of utilizing the water power resources of the Kura and Araks Rivers was substantiated, the prospects of the development of a number of sectors of industry and agriculture, particularly with respect to the petroleum industry, cotton growing, irrigation and cultural construction, were determined, which helped in a short time not only to restore, but also to transform the former remote colonial part of tsarist Russia into one of the flourishing republics of our country.

Especially great gains were made during the 1970's. Soviet Azerbaijan today is a republic of powerful industry, multisectorial highly mechanized agriculture, developed science and great culture. During the years of Soviet power the output of industrial products has increased 156-fold. The electric power stations of the republic now generate sevenfold more power than was generated in all of tsarist Russia. The output of agricultural products has increased by more than 7-fold as compared with the prerevolutionary level, while the output of the products of plant growing has increased nearly 10-fold. The yield of cereals in 60 years increased by 3.5-fold, while the yield of cotton increased more than 8-fold. The area, to which everything except petroleum was delivered prior to the establishment of Soviet power, today ships more than 350 types of its own industrial products to 65 countries of the world.

As a result of much political and organizing work of the party organization of the republic, Soviet Azerbaijan has made a worthy contribution to the implementation of the policy of the party, which was outlined at the 24th and 25th CPSU Congresses. During the past decade the amount of produced national income of the republic has increased 2.14-fold, the volume of industrial output--2.2-fold, the gross output of agriculture--nearly 2-fold. In all 15.6 billion rubles were channelled into the national economy of the republic, which is 1.8-fold more than during the preceding decade. The efficiency of social production increased considerably. The productivity of national labor increased 1.6-fold, in industry--1.7-fold, the efficiency of fixed production capital increased. During the 10th Five-Year Plan the proportion of the output of the highest quality category in the total amount of the gross output of industry increased from 1.3 to 16.1 percent. The accelerated, dynamic growth of social production was accompanied by a considerable increase in the level of the well-being of the people.

As a whole the gains made in the 1970's ensured a substantial increase of the proportion of the Azerbaijan SSR in the unified national economic complex of the country. As Candidate Member of the Politburo of the CPSU Central Committee and First Secretary of the Central Committee of the Communist Party of Azerbaijan Comrade G. A. Aliyev noted in the Accountability Report to the 30th Congress of the Communist Party of Azerbaijan, "In scale and completeness, in the nature of the changes in the structure of industry and the entire economy, the 10th Five-Year Plan is the best in the creative chronicle of Azerbaijan. It was truly a five-year plan of efficiency and quality." All these achievements convincingly demonstrate the advantages of the socialist planning system and are a result of the scientifically sound economic policy of the party.

New, more difficult tasks of enlarging the scale of production and accelerating the rate of economic and social development face the country during the 1980's and the 11th Five-Year Plan.

In the Accountability Report of General Secretary of the CPSU Central Committee Comrade L. I. Brezhnev to the 26th CPSU Congress, on the basis of the thorough and comprehensive analysis of the factors of the economic growth of the country a detailed program of the further growth of the economy is given and the main directions of socio-economic progress and the specific means of implementing them are specified.

The accomplishment of the new, more difficult tasks is connected, first of all, with the need for the further improvement of the system of planning and the mechanism of management.

For our country the 1980's will be characterized by a number of features, which should be taken into account when determining the immediate problems which require solution.

In contrast to the demographic situation which has formed throughout the country, in the Azerbaijan SSR favorable circumstances with manpower resources have formed. Estimates show that in the 1980's in the all-union increase of manpower resources the share of Azerbaijan will be nearly sixfold greater as against its proportion in the total size of the population of the country. In the future Azerbaijan should specialize, among the few southern republics, in labor-intensive works, which is in full accord with all-union interests.

In spite of the stabilizing tendency of convergence of the levels of the development of production between the republic and average union indicators, the gap is still significant and is on the average 20-25 percent. One of the tasks of the next decade is to reduce the existing differences to a minimum.

The interests of the increase of the efficiency of social production and the orientation of the economy of the republic toward the increase of the standard of living of the people, which ensue from the decisions of the 26th CPSU Congress and the 30th Congress of the Communist Party of Azerbaijan, require the gradual solution of a number of most important problems, to which, first of all, there can be assigned:

the further improvement of the national economic proportions and the structure of industry, which is connected with the increase of the industrial potential, the assurance of the more complete utilization of mineral raw material and natural resources with their working into final products; the elimination of the disproportions between the volume of output of agricultural products and the capacities for their processing; between the production of consumer goods and the meeting of consumer demand;

the intensification of production by the acceleration of retooling, the introduction of the achievements of science, the more complete utilization of fixed capital and the increase of product quality, which ensure a high growth rate of labor productivity and the efficiency of social production;

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the creation of a firmly balanced republic food complex, without relaxing the attention and efforts toward the development of the sectors of all-union specialization;

the active influencing of the factors, which characterize the increase of the standard of living of the workers, the gradual convergence of the used and produced national income by the accelerated development of the sectors of the social infrastructure and the better utilization of public consumption funds;

the assurance of the preferential increase of employment as compared with the increase of manpower resources for the purpose of involving in the public sector the able-bodied population, especially women, and of improving the social structure of the population; the elimination of the existing disproportion between the demand of the national economy for skilled personnel and the rate of their training;

the more efficient distribution of productive forces, which is aimed at the equalization of the levels of the economic development of the individual regions of the republic, the attachment of manpower resources in these regions and the gradual decrease of the great proportion of the Baku-Sumgait region in industrial production.

During the 11th Five-Year Plan the republic is faced with important and responsible tasks. In conformity with the Main Directions of the Economic and Social Development of the USSR National Economy for 1981-1985 and the Period to 1990, which were approved by the 26th CPSU Congress, during the 11th Five-Year Plan in Azerbaijan it is envisaged to increase the volume of industrial production by 29-32 percent, the average annual output of agricultural products--by 15-17 percent. State capital investments in the amount of 10.5 billion rubles have to be assimilated.

The further enhancement of the role of science, scientific and technical progress and the efficiency of social production is necessary for the successful accomplishment of the economic and social tasks facing the republic during the 11th Five-Year Plan. During the coming period the importance of scientific research and development, which are being performed in the republic, as the starting point of long-term planning should be increased even more.

It is necessary to improve the planning of all spheres of science, ensuring the increase of the efficiency of the use of the scientific potential of the republic.

The improvement of planning and management in the sphere of science, first of all, should be aimed at the elimination of the serious disproportion between the number of scientific jobs which have been completed and have been introduced in production. Thus, on the average about 2,000 scientific jobs are completed annually at scientific institutions and organizations, but only about half are introduced in production.

Particular attention should be devoted to the strengthening of the material base of science and to the construction of pilot enterprises and works, which ensure the materialization of the results of scientific research.

The improvement of the sectorial structure of scientific research is also an important factor of the increase of the efficiency of science. Whereas in the country the network of sectorial institutes, planning and design and pilot experimental bases in such sectors as light, the food, the wood processing and several other sectors is inadequate, in Azerbaijan it is essentially absent.

The decree of the CPSU Central Committee and the USSR Council of Ministers "On Improving Planning and Strengthening the Influence of the Economic Mechanism on Increasing Production Efficiency and Work Quality" augments the arsenal of planning with one of the most important components of the long-term state plan--comprehensive goal programs. The elaboration of long-term comprehensive goal programs and, first of all, the goal program of the development of scientific and technical progress, which should constitute the basis of scientific forecasts and long-term national economic plans, has to be expedited with allowance made for the enhancement of the role of science in solving the key problems of the socio-economic development of the republic.

Taking into account the particular importance of the solution of a number of problems for the development of the republic economy, the elaboration of such urgent comprehensive goal programs as the food program, the efficient use of manpower resources, the reduction of manual labor in industry and transportation, nature conservation and the efficient use of natural resources, as well as the meeting of the demands of the population for new industrial goods is acquiring great importance.

At present preprogram operations are already been carried out on the individual goal programs.

The republic comprehensive food program which is called upon to ensure the maximum meeting of the demands of the population for foodstuffs on the basis of the fundamental unity and the balance in development of the sectors of the agro-industrial complex, is the most important and vitally necessary one among the programs being drawn up. As Comrade L. I. Brezhnev noted at the 26th CPSU Congress, in this sector of the national economy "...the center of gravity now--and this is a distinctive feature of the agrarian policy in the 1980's--is shifting to the yield from capital investments, the increase of the productivity of agriculture, the extension and improvement of its ties with all the sectors of the agro-industrial complex."

For the successful implementation of the food program the planning organs need to ensure comprehensive planning, the proportionate and balanced development of all sectors of the agro-industrial complex, the considerable strengthening of its material and technical base, the improvement of the economic ties between the sectors and the organization of their efficient cooperation. In this connection the attention toward questions of the assurance of the keeping capacity of agricultural products and the increase of the capacities of the processing industry and procurement organizations, which are called upon to ensure the complete processing of the agricultural products of both the public sector and the private subsidiary sector, should be increased.

At the same time the special-purpose orientation of the food program is advancing the task of the thorough study of the established level of supply of the population with foodstuffs and the scientifically sound determination of the demand of the population of the republic for these goods with allowance made for demand and the identification of the real possibilities of further increasing the output of the products of plant growing and animal husbandry. It is necessary to identify the additional reserves of the maximum increase of the production and procurement of meat, milk, eggs, grain and potatoes for increasing the level of their per capita consumption.



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number of problems of a socio-economic, educational nature. Along with the creation of new works and workplaces, the planned training of a skilled regular labor force of the necessary specialties and the improvement of the material and technical base of vocational and technical schools are the most important of them.

The acceleration of the rate of economic growth of the republic governs the further increase of the standard of living of the population. This, first of all, requires the serious study of the questions of consumption in the national income being used. At the 30th Congress of the Communist Party of Azerbaijan Comrade G. A. Aliyev directed attention to the need for the thorough study of these questions.

For the purposes of the better solution of social problems the leading growth of the national income being used is envisaged during the 11th Five-Year Plan. Here it is planned to change the structural parameters of the consumption fund and to provide for the leading growth rate of the real income and the public consumption funds. During the coming period it is planned to continue the consistent policy of improving the wage mechanism and of increasing the rates and salaries of workers and employees, first of all in the production sectors, with allowance made for the utmost identification and utilization of the reserves for increasing labor productivity.

Among the urgent economic problems connected with the increase of the well-being of the people, which have to be solved in the next few years, the elimination of the existing disproportions between the production of consumer goods and the meeting of the demand of the population for them is acquiring great importance, to which attention was directed with utmost urgency at the 30th Congress of the Communist Party of Azerbaijan.

Our plans are called upon to direct the attention of enterprises to the finding of resources and means for the production of consumer goods in the sectors of heavy industry and, first of all, machine building, the chemical and petrochemical industry and nonferrous metallurgy of Azerbaijan. The enterprises of the republic Ministry of Local Industry, which are obliged to provide for the maximum utilization of local raw material resources for the production of consumer goods, should make a substantial contribution to the solution of this problem.

On the basis of the task of the complete, efficient use of the created production potential, which was set by the 26th CPSU Congress, the questions of the identification of reserves for the improvement of the use of production capacities, the reduction of the downtimes of machines and equipment, the increase of the shift coefficient, the efficient and economical use of raw materials and materials, fuel and power and their full consideration when formulating national economic plans are acquiring particular importance.

The problems of increasing the efficiency of the work of the extractive sectors of republic industry, which are still not ensuring the adequately complete extraction of minerals from the ground, are closely interrelated with their solution. First of all this concerns the oil drilling industry, in which it is necessary to develop extensively the front of operations which are aimed at the introduction of secondary and tertiary methods of the recovery of petroleum.

The years gone by were characterized for our republic by the extremely inadequate development of electric power engineering and its production base. With the high

The social transformation of the village will become an integral component of the food program. In this connection serious attention will be devoted to questions of housing construction with allowance made for the creation of private subsidiary farms, the improvement of the working conditions of kolkhoz farmers and the expansion of the network of health, educational and cultural institutions.

The entire system of planning, the scientific, technical and structural policy, as well as the search for and introduction of new efficient forms and methods of managing production and labor should be subordinate to the changeover of the entire national economy primarily to the intensive path of development.

Labor productivity is the most generalizing indicator which characterizes the intensification of the economy and the increase of the efficiency of all the sectors of the national economy. Therefore, in planning policy the deep-seated factors which govern the increase of labor productivity should be actively influenced. It should be persistently endeavored to use efficiently, wisely and with full output the enormous economic, scientific and technical potential which has been created in the republic.

In spite of the positive changes which were achieved during the years of the Ninth and 10th Five-Year Plans in the area of the improvement of the use of manpower resources, the availability of still unemployed able-bodied inhabitants requires the planned solution of the questions of their efficient use. The goal program in this area is called upon to ensure the elaboration of a set of measures which are aimed at the further improvement of the sectorial and territorial structure of employment for the purpose of the maximum possible involvement of the able-bodied population in social production.

The solution of the problem of the efficient use of manpower resources involves the determination of the further means of developing labor-consuming works and, first of all, the advanced sectors of machine building, of rapidly developing the nonproductive sector of the economy in small and medium-sized cities and of intensifying the process of committing the natural and manpower resources of the western and central regions of the republic to the national economic turnover.

It is necessary to pursue more actively the planning policy of further leveling the still existing differences in the development of productive forces and to ensure a systems approach to the problems of the comprehensive economic and social development of each economic region of Azerbaijan by the formation of territorial production complexes and the balanced development of the interconnected sectors, the sphere of application of male and female labor and the social infrastructure.

The establishment in the regions of the republic of branches of large enterprises of machine building, light industry and other sectors will promote the solution of the problem of the more complete utilization of manpower resources and the improvement of the structure of employment of the population. In particular, during the 11th Five-Year Plan it is planned to establish branches of large machine building enterprises in Nakhichevan', Stepanakert, Ali-Bayramly, Lenkoran', Khachmas, Divichi, Fizuli, Shamkhor and Sheki, and branches of light industry enterprises in Geokchay, Vartashen, Khanlar, Agdam, Khaldan, Taz, Akhsu, Kyurdamir and other cities.

The active involvement of manpower resources in the public sector under the conditions of the republic is a complicated matter which requires the solution of a

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1.5-fold increase of the consumption of electric power, the increase of power capacities was only 1.25-fold. The formed shortage of electric power, especially in recent years, was covered with a great strain from the Transcaucasian Power System and could not fully meet the needs of the republic.

During the new five-year plan the construction and renovation of a number of large electric power stations have to be completed and the preliminary work on the Yenikendskaya GES has to begin in 1981.

The economical use of fuel is of great importance in the reliable power supply of the republic. At present the specific consumption of conventional fuel at the electric power stations of the republic is nearly 33 grams higher than on the average for the country. This is leading to the great excessive consumption of valuable organic raw materials. The task is to achieve by the end of the 11th Five-Year Plan on the basis of renovation and modernization the decrease of the gap between the average sectorial and the republic indicators on the specific consumption of fuel and the losses of electric power in the networks.

In order to speed up the increase of power capacities it is necessary to substantiate and solve the problem of the expansion of the Azerbaydzhanskaya GRES to 2.8 million kW and the construction of a nuclear electric power station, which should be put into operation in the early 1990's.

In the achievement of the tasks advanced by the 26th congress an exceptionally important role is being assigned to capital construction.

The construction workers of Azerbaijan have gained much practical experience in the organization and management of production and in the building of large industrial facilities, agricultural complexes and irrigation structures and unique civil facilities.

At the same time many serious shortcomings continue to occur in capital construction. Brigade cost accounting is being laxly introduced. A disproportion has formed in the development of construction and its material and technical base.

In conformity with the decree of the party and government of 12 July 1979, in order to perform increasing amounts of capital construction the contracting organizations need to expedite the implementation of measures which are aimed at the improvement of the organization of construction, the more extensive introduction of cost accounting and the further increase of labor productivity. Planning at the present stage should promote the utmost concentration of assets and resources at the most important start-up projects in order to achieve a decrease of the amounts of unfinished construction to the level of the standard and to ensure the maximum increase of production capacities in a short period.

In short, the implementation of large-scale plans of economic development will require a substantial increase of the potential of construction in the republic.

During the 11th Five-Year Plan the volumes of shipments by all types of transport will increase considerably. The creation of a highly efficient unified transportation system, by which is meant the economically balanced and technologically interconnected functioning of all types of transportation, is the main task of the

elaboration of the comprehensive program of the development of transportation. It is necessary to devote particular attention to the elaboration of economic balances of transportation with allowance made for the efficient distribution of shipments among types of transportation.

In connection with the accelerated development of individual sectors of the economy the planning organs should prevent arising disproportions which can cause economic losses in the national economy. In particular, in the Azerbaijan SSR such disproportions have been noted between agriculture and the capacities of the processing sectors.

The gains made by agriculture of Azerbaijan have caused a sharp increase of the output and procurement of the products of plant growing. However, the capacities of the sectors, which process agricultural raw materials, have developed considerably more slowly. As a result a significant disproportion has formed between production and the capacities for the processing of these raw materials, which is leading to losses of the crop and the decrease of the quality of the processed products. The planning organs, the appropriate ministries and departments need to take urgent steps to develop the capacities of the processing industry and to provide it with modern, highly productive equipment.

The increasing scale of the involvement of natural resources in the economic turnover requires the increase of attention to the problems of preventing disturbances of the ecological equilibrium. Under the conditions of the Azerbaijan SSR the recultivation of lands, which have been disturbed and polluted by industry, transportation and the wastes of municipal services and other sectors, is one of the important tasks in this area. This is especially important for Apsheron, where more than 30,000 hectares, or more than 5 percent of the territory of the region, have become useless. The ever increasing volumes of water consumption and the low level of the water supply of the republic are creating the need for the efficient use and conservation of water resources. It is planned to perform much work on the purification and reuse of the waste water of industrial enterprises and on the improvement of the reclamation state of lands.

In order to create favorable conditions for the labor, daily life, relaxation and protection of the health of the workers of the republic it is necessary to increase considerably the work on the prevention of the pollution of the air and the water area of the Caspian Sea.

An important role in the effective development of the economy during the 11th Five-Year Plan is being assigned to the measures specified by the party on the improvement of planning and the perfection of the economic mechanism, for effective operation of which, as Comrade L. I. Brezhnev emphasized at the 26th CPSU Congress, "...the proper economic situation and organizational and management relations should be created."

In this connection it is planned to enhance the role of long-range planning, to create an integral system of interconnected and balanced annual, five-year and long-range plans on the basis of the use of goal program, balance and standard methods, and to orient them toward the assurance of the proportionate growth of the economy and the efficient combination of the sectorial and territorial principle of development. Along with this, in the set of measures aimed at the improvement of the

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economic mechanism more attention should be devoted to the further strengthening of cost accounting, the increase of the influence of the new evaluation indicators of the plan on the end results of work and the strengthening of material and moral stimuli.

Let us note that in the republic much work has been performed and continues to be performed on the implementation of the measures specified by the decrees of the party and the government, which were adopted in July 1979.

For the purpose of the more objective evaluation of the results of the activity of each labor collective, in a number of economic experiments a new evaluation indicator--the standard net output, which it is planned to use in the majority of sectors as the main indicator in the planning of production, the determination of the labor productivity, the planned wage fund, the profit and others, is being introduced in planning practice.

The thorough study and generalization of the gained experience of work on the introduction of the evaluation indicators of the plan and the strengthening of the influence of the levers of the economic mechanism, so that the enterprises which have not yet begun the work in this direction could effectively use the recommendations of scientists in the process of changing over to the new conditions of management, is an important and urgent task of the scientists of all the economic and scientific research institutes, chairs and laboratories of higher educational institutions.

The responsibility of enterprises for the meeting of contractual obligations on deliveries of products according to a specific list and assortment is now being increased. In this connection the strict adherence to planning and contractual discipline is acquiring particular importance.

As Comrade L. I. Brezhnev emphasized at the 26th CPSU Congress, "The party has always regarded the plan as a law. And not just because it is approved by the Supreme Soviet. The plan is a law because only its observance ensures the coordinated working of the national economy. We will say frankly: this obvious truth has begun to be forgotten. The practice of adjusting plans downward has acquired an extensive scale. Such a practice disorganizes the economy, demoralizes personnel and accustoms them to irresponsibility."

Taking into account the increase of the role and responsibility of Gosplan in the matter of the comprehensive solution of long-range problems and the stepping up of the monitoring of the observance of planning discipline, the CPSU Central Committee and the USSR Council of Ministers have adopted a special decree on the improvement of the organization of the work of Gosplan and the enhancement of its role in the system of organs of state government. A corresponding decision of the Central Committee of the Communist Party of Azerbaijan and the Azerbaijan SSR Council of Ministers has been adopted with respect to Gosplan of the republic. Particular attention is directed to questions of the comprehensive development of the interconnected sectors and regions of the republic and the overcoming of departmentalism and regionalism when drafting state plans.

It is recognized as expedient to establish in Gosplan of the republic eight intersectorial combined administrations headed by the deputy chairmen, which will coordinate and solve in conjunction all the problems of the development of the interrelated sectors and will bear responsibility for their implementation.

The means of the further dynamic development of the national economy of Azerbaijan during the years of the 11th Five-Year Plan are specified in the decisions of the 26th CPSU Congress and the 30th Congress of the Communist Party of Azerbaijan. The fulfillment of the five-year plan will make it possible to take a new important step in the solution of major problems, on which the further economic and social progress of the republic depends.

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REGIONAL DEVELOPMENT

SPECIAL REQUIREMENTS OF SIBERIAN DEVELOPMENT STRESSED

Siberia's Regional Production Complexes

Moscow VOPROSY EKONOMIKI in Russian No 5, May 81 pp 54-65

[Article by V. Voznyak: "Peculiarities of Development of Siberia's Regional Production Complexes"]

[Text] During the 26th CPSU Congress L. I. Brezhnev noted that, in accordance with decisions of the 26th CPSU Congress, regional production complexes are being formed in the European portion of the RSFSR, the Urals, Siberia, the Far East, Kazakhstan, and Tajikistan. Industrial development of the new regions is important in both social and political plans.

Within the country's interindustry investment complex, which includes construction production (the construction industry), branches of investment machinebuilding, the group of industries that produce constructional structure, articles, materials and construction machinery, and repair and certain infrastructure units, its various regional parts differ as a function of the economic geography and degree of industrial development of the region. In the regions of Siberia that are being newly developed, the forming of construction and installing organizations, construction-industry and building-materials industry enterprises, and facilities that produce various types of construction machinery and equipment for the facilities that are being erected there plays a decisive role. Problems of the accelerated buildup of investment capacity in these regions for support of the intensive development of the huge regional production complexes that are being established and which are exerting an ever-increasing influence on development of the country's economy are acquiring important procedural and practical significance.

The establishment of regional investment complexes in the new regions depends upon the concept adopted for their development, the technical and technological principles for developing industries for the specialization of TPK's [Territorial Production Complex], and use of the achievements of scientific and technical progress in construction, as well as the approach to the creation of the production and social infrastructure in these regions. Thus, in order to develop the oil fields of Tyumenskaya Oblast, which are situated in swampy regions difficult of access and which later became the base of the West Siberian oil and gas complex, a number of plans were advanced, including development of the oil region by means of the erection of fixed trestles (of the Neftyanyye Kamni type in Azerbaijan), and the complete drying of the swamp by laying special canals and passing

barges with drill rigs over them. These variants were marked by great labor intensiveness and required great capital investment and the creation of basically different investment complexes. Another design for industrial development of the oil deposits was adopted in practice. Development of the fields was started with the more accessible sections, based upon experience in the oil provinces of Tataria and Bashkiria, and then, as in-house experience was gained, engineering solutions that met local requirements were worked out.

The especially complicated natural and economic conditions of the Siberian regions that are being newly developed industrially necessitate the development of specific regional directions for scientific and technical progress, the creation of equipment and technology that will meet these conditions, and a search for ways to reduce national-economic outlays for building facilities in these regions.

For the benefit of the West Siberian oil and gas complex, scientists and specialists developed and put into design and construction practice a new method for erecting facilities in swampy regions, which previously had been considered, according to the existing directives and construction norms, as unsuitable for development, without the removal of weak, water-saturated and peaty soils and replacing them with imported-stone fill. This enabled a great speedup in the pace of building production capacity, cities and settlements in this region and reductions of more than 180 million rubles in the cost of the construction and installing work for oil-industry facilities for the period 1968-1980, of 12 million man days of labor expenditures, and of 700,000 cubic meters in the consumption of prefabricated reinforced concrete.

The outfitted-module method of building oil and gas industry facilities, which was approved at the 25th CPSU Congress, in L. I. Brezhnev's speech at the 18th Komsomol Congress, and in "The Main Directions for the Economic and Social Development of the USSR During 1981-1985 and During the Period up to 1990," was widely disseminated at this same complex. In 1980 Minneftegazstroy [Ministry of Construction of Petroleum and Gas Industry Enterprises] organizations, using the outfitted-module method, built facilities at the TPK at a total budget-estimated cost of 450 million rubles. The introduction of this method enabled great economic benefit to be obtained. New technical and operating solutions were applied in the laying of pipelines and the erection of railroads, highways, electric-power stations and power lines, which speeded up construction and reduced construction costs.

The basic investment complex of the TPK is the supply and equipment base for construction work. It is included in the infrastructure industries of the region, along with the transport, power and nonproduction spheres. Increased demands are laid in the modern era on the supply and equipment base for construction work. It should enable construction organizations to erect facilities with industrialized methods from parts, structure and finished components and modules that have a high degree of factory manufacture, creating the material prerequisites for raising labor productivity in construction, reducing time for building the facilities, and reducing the cost thereof. In the new regions the supply and equipment base for construction should be developed at a rate that outpaces not only that of the complex's specialized industries but also that of its infrastructure. As the establishment of the TPK's fixed capital is completed, the requirements for construction-industry capacity is reduced and its role is reduced down to one of maintaining construction work volume at a preset level.



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Development of the concept of forming the supply and equipment base for construction at new TPK's is of basic importance. Thus, at the initial stage in assimilating West Siberia's oil deposits, construction was performed with imported materials and structure. Later the need arose for the construction of enterprises, departments and casting yards for making prefabricated reinforced-concrete articles and structure, as well as workshops for repairing construction equipment, garages, and so on. Since the program for developing West Siberia's oil industry requires huge capital investment, some scientists believe it is necessary to be oriented to maximum possible reduction of investment in fixed construction bases that are designed for prolonged operating periods. The specifics of building up oilfield facilities, the high share of expenditures (up to 35 percent) for laying pipelines, that is, for operations of a mobile nature, the comparatively low share of construction and installing operations in total investment volume, and so on, enable the prescribed levels of oil recovery to be insured without additional expenditures for developing local construction bases, large cities and other elements (excluding transport and power supply) of the overall oilfield infrastructure.\*

When establishing a base for the construction and the building-materials industries in new regions, the requirements for nonproductive construction must be considered. During the initial period of conquering the West Siberian oil and gas complex, the role of the social infrastructure was underevaluated; opinions were expressed that it was not necessary to create permanent cities and settlements in these regions, that temporary-type construction should do. As experience has confirmed, if the prescribed level of recovery oil and gas in the region is to be supported, the establishment of interdependent production facilities requires the construction of base cities such as Surgut, Nizhnevartovsk, Nefteyugansk, Nadym and Uray, with well-appointed housing and facilities for social and personal-amenity purposes and settlements for regular workers and for rotating-duty type workers. For new TPK's the most rational scheme for siting cities and settlements must be developed in each specific case. In so doing, as experience shows, the construction of large communities in regions where industry is being newly developed should be restricted; for servicing remote oilfields or other facilities, it is desirable to erect rotating-duty type workers housing settlements made out of lightweight collapsible structure or wooden buildings.

A high-capacity production base for construction was necessary for the successful forming of the new large oil and gas complex in West Siberia and for the development of cities and settlements in this region. During the Eighth Five-Year Plan the execution of a major program for building construction-industry and building-materials industry enterprises began in the region. As a result of its realization in Tyumenskaya Oblast, the base of the West Siberian oil and gas complex, during the next two five-year plans capacity for producing prefabricated reinforced-concrete articles rose 6.9-fold, while large-panel housing-construction capacity rose 6.5-fold, keramzit-gravel capacity 6.8-fold, and brick capacity 1.6-fold.

Along with the traditional types of materials and structure, the output of modular systems and lightweight enclosure structure has been mastered at the TPK, and enterprises that make pipe insulation for the laying of conduit-free heating networks and that repair construction equipment have been built. The capacity of

\*See, for example, "Ekonomicheskiye problemy razvitiya Sibiri" [Economic Problems in the Development of Siberia]. Novosibirsk, 1974, page 217.

Development of the Construction and the Building-Materials Industry  
of Tyumenskaya Oblast During the 8th to 10th Five-Year Plans

Productive capacity	8th Five- Year Plan	9th Five- Year Plan	10th Five- Year Plan	11th Five- Year Plan
Capacity for producing prefabricat- ed reinforced-concrete articles (thousands of cubic meters).....	128	245	965	1,700
Capacity for fully prefabricat- ed housing construction (thousands of cubic meters)....	35	153	660	1,000
Capacity for producing keramzit (thousands of cubic meters).....	50	122	554	830
Brick plants (millions of bricks)..	220	288	393	460

Sibkomplektmontazh [Siberian Association for the Manufacture of Outfitted Modules] enabled 2,100 box modules and 380,000 square meters of aluminum enclosure structure with foam plastic fill to be manufactured in Tyumen' in 1980. A support and logistics base in Tyumen' and support bases in Surgut, Tobol'sk, Nizhnevartovsk, Nadym and the Kharp settlement have been established and continue to be developed, and local enterprises, subordinate subassembly-outfitting bases, casting yards for prefabricated reinforced-concrete articles, and repair shops at the junctures of concentrated construction and various focal points of construction have been organized.

At the same time, there have been definite deficiencies in development of the supply and equipment base for construction of the TPK during the recent period. Construction-industry enterprises belong, as a rule, to departments; many of them are of small capacity. When they were planned, the severe natural conditions of the region were not given due consideration. At some enterprises, obsolete technology oriented to the output of heavy, cumbersome reinforced-concrete structure was being used. Lags were permitted in erecting housing and cultural and personal-amenity facilities for the workers of these enterprises, and the undeveloped state of the repair base impeded mastery of production capacity that had been introduced. Despite the comparatively rapid pace and large scale of formation of the supply and equipment base for construction and the development of construction organizations in West Siberia's oil and gas regions, the requirements for a complex with investment capacity are being met with great strain, and a large amount of materials and structure are being shipped to this TPK from other regions.

An important reserve for raising the effectiveness of the supply and equipment base for construction at new TPK's is the creation of large interagency enterprises at which highly productive machines and units can be used, the introduction of completely mechanized and automated industrial lines, and an intensification in specialization of production, thereby reducing labor expenditure per unit of output and the cost thereof. In recent years the capital investment of several agencies has been amalgamated at the West Siberian oil and gas complex for purposes of erecting large facilities for the construction industry and for wood processing. Such facilities include reinforced-concrete product plants at Surgut and the Kharp settlement, which Minneftegazstroy is erecting with the shared participation of Minnefteprom [Ministry of Oil Industry] and Mingazprom [Ministry of Gas Industry], a wood-processing combine in Surgut, which is being built by USSR Minlesprom [Ministry of Timber and Wood-Processing Industry] with the shared participation of

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Minneftegazstroy in the amount of 40 percent, USSR Minenergo [Ministry of Power and Electrification] 20 percent, and USSR Minpromstroy 20 percent, and capacity for producing fully transportable buildings at the Pyshma Lumber Combine that USSR Minlesprom is erecting with the shared participation of Minneftegazstroy, Mingazprom and Minnefteprom.

Definite difficulties arise in the financing and transfer of shared funds when these facilities are erected. Ministries often do not transfer funds to the prime developer on time, pleading inadequate allocation of capital investment to them. It is desirable that capital investment for developing the construction production base for a TPK be allocated to the prime organizations by direct assignment for purposes of erecting large enterprises that serve definite areas of construction, regardless of the customers' agency subordination. Recommendations have been worked out for creating mobile bases for the construction industry in new regions, but they are not being realized because of a lack of special transport means and equipment.

Machinebuilding facilities that produce equipment for enterprises under construction and construction machinery can be located apart from the new TPK's. The development of such facilities in these regions, which are marked by a shortage of labor resources, is not always justified because of the high labor intensiveness of the output produced. However, it is desirable to site some enterprises at the TPK's, for example, plants that manufacture outfitted-module arrangements, certain types of special transport means and construction equipment, and, above all, test and experimental production facilities. These should be mainly assembling enterprises that obtain separate components and assemblies from other regions. It is economically desirable that new industrial regions use reliable equipment, which is marked by longer periods between repairs.

It is necessary to create in the new TPK's design and scientific-research organizations of the construction profile in the form of independent institutes, as well as branches and separate large institutes that are located in industrially developed areas, and construction training institutes. Bringing these organizations close to construction operations will help to speed up introduction of the achievements of scientific and technical progress and to promote personnel retention in construction.

New regions of Siberia are at present being developed selectively. Primarily those regions are being developed at which, with a given level of development of productive forces, it will be possible to obtain scarce output, fuel and power resources, or raw materials more cheaply than in industrially developed regions. The effectiveness of the TPK's that are being established in these regions depends to a great extent upon the pace and scale of their development and acceleration of the introduction of the fixed capital of the complex's specialized industries into operation. Therefore, the sequential promotion of construction in new industrial regions, where first construction organizations and their production base are created, and a production and social infrastructure for the region is developed, and only then is the capacity of the industries for specialization of the TPK built, inevitably leads to a delay in introducing the new sources of raw materials and fuel into national economic circulation and to the freezing of financial and material resources for a long time.

Therefore, in most cases, the construction industry, the infrastructure and the complex's specialized industries are developed simultaneously while TPK's are being

established in the new regions. Thus when the West Siberian oil and gas complex was being established, the recovery and transporting of oil, and then of natural gas, were being organized. In so doing, assuring an optimal combining of the pace and proportions of development of all branches and spheres of economic activity of a complex through the internal development of those branches and spheres is excessively complex. In practice, cases occur of late introduction of production capacity into operation, and the lagging of various branches of the complex, as a result of which disproportions in developing the TPK arise and its effectiveness is reduced. To a definite extent this is caused by the lack of investment capacity in the region.

Under existing construction practice, prefabricated reinforced-concrete structure and articles, quarried materials and wall and certain heat-insulating material, which make up the major portion of all material resources used in construction, are categorized as local building materials. Most contracting construction agencies have been assigned to the local region. As a result of this, construction capacity and investment capacity as a whole for a definite region are categorized as local economic resources. However, in recent years substantial changes have occurred in construction work, in the development of productive forces, which are characterized by the appearance of more transportable types of structure and articles, the use of highly productive machines and mechanisms and of new and effective transport means, a considerable rise in the level of the industrialization of construction work, the transformation of construction sites into assembling sites, and the introduction of basically new methods of construction. This will enable broad intraregional and interregional manipulation of construction resources, which, in turn, necessitates improvement in production relations in construction. Moreover, the TPK is not a cell of a single national-economic complex that is closed in its economic relations, and, therefore it cannot be oriented to providing itself with all types of resources, including investment capacity.

This creates objective grounds for developing concrete organizational and economic forms for acquiring investment capacity for the industrially developed regions of the country for participation in the establishment of new TPK's and for concentrating them in case of necessity on the more important sectors of economic development. There is definite experience in this work. For example, USSR Minpromstroy has acquired construction organizations from the Bashkirskaya ASSR and Irkutskaya, Permskaya and Omskaya oblasts for construction of the city of Nizhnevartovsk, Tyumenskaya Oblast. Using their own production base for large-panel housing construction, they supported fulfillment of the task for introducing housing capacity in this city during the Ninth Five-Year Plan. However, in so doing, large-panel housing of obsolescent series was shipped that was not fully suitable for the severe natural and climatic conditions of the region and did not meet the essential norms for three-dimensional layout indicators. It was required that new production capacity be built in Nizhnevartovsk or that a number of existing housing-construction combines from other regions convert to the output of northern versions of outfitted apartment houses. This work was not done in good time; this adversely affected the quality of the city's development and fulfillment of the plan for introducing apartment houses during the 10th Five-Year Plan.

Minneftegazstroy uses widely at the West Siberian oil and gas complex the capacity of construction organizations of other regions during the winter, when it is possible to operate in the swampy regions. The organizations recruited in some years did up to 30 percent of the ministry's operating volume in the TPK. In the summer

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these organizations were moved back to their regions, enabling them to provide a workload on the construction equipment more fully and rationally over the year and to manipulate the equipment. However, the construction organizations of this ministry that were acquired from other regions to erect compressor and pump stations in West Siberia are operating less effectively than the local organizations: organizational breakdowns and remoteness from production bases are telling.

The lack of legal bases, of precisely governed organizational and economic forms for the operation of the construction organizations that are involved in the new TPK's, is one of the main factors in their frequently low effectiveness. The bringing of additional construction capacity into the region of new industrial development, notwithstanding the substantial scale thereof, is not systematic in nature. The capacity of the construction organizations is not adequately balanced with the tasks for introducing fixed capital at the new TPK's, and the production bases for building in inhabited regions are being used without due consideration for the specifics of areas being developed for the first time.

During the last 2 years such new forms of organization as mobile specialized construction and installing organizations have appeared. All-Union construction and installing associations have been formed within USSR Mintyazhstroy [Ministry of Construction of Heavy Industry Enterprises], USSR Minpromstroy and USSR Minstroy [Ministry of Construction] for supervision of their work. A most important task of these mobile organizations is the construction of enterprises and facilities in poorly developed regions and in areas with an inadequately developed construction base. Minneftegazstroy has created 8 mobile specialized construction and installing organizations (four based on existing trusts) for the construction of pipelines and compressor and pump stations in parts of the country that are remote and sparsely settled and 30 mobile mechanized columns for the construction of compressor and pump stations remote from the production bases of this ministry's construction organizations.

The mobile organizations do construction and installing work, as a rule, under subcontract agreements with the regional construction organizations. The client ministries and agencies are obligated to specify in budget estimates for construction of the facilities that these specialized construction and installing organizations be reimbursed for expenditures connected with the mobile nature of the work and be given an increase in the bonuses for reducing the standard construction time. A number of pay advantages have been established for workers of mobile specialized construction and installing organizations. Thus, the supervisors of these subunits are authorized to pay workers who are sent to build facilities for a period of over 2 months an increment to the wage in the amount of 75 percent of the fixed rate (or salary for the post) instead of the per diem for expenses. During the workers' stay for the construction of facilities in the field where wage factors are used, payment of the indicated increment is made to take into account the approved factors. The size of the bonus is increased for piece-rate workers, and one-time compensation for workers of these organizations at the end of the term of service has been established. Ministries have been granted the right to categorize mobile specialized construction and installing organizations one group higher, with respect to wages, than the group category that is set in accordance with existing indicators, and to raise the salary of the supervisory workers of mobile organizations of the first group by 10-15 percent.

Construction organizations of the Ukrainian, Belorussian, Uzbek, Kazakh, Lithuanian, Latvian and Estonian Union republics, certain RSFSR oblasts and the cities of Moscow and Leningrad were recruited in 1980 for the construction of apartment houses, facilities for social and personal-amenity purposes, and highways in the area of the West Siberian oil and gas complex. This greatly strengthened the investment potential for creating new fixed capital in the West Siberian oil and gas complex and for increasing housing and road construction in that region. It was required, for example, that in 9 months the production of parts for apartment houses in Nizhnevartovsk, Tyumenskaya Oblast, be organized, these parts and other supplies and equipment be shipped by rail to the oil and gas region, construction subunits be organized locally, and apartment houses with a total area of 32,000 square meters be put into operation in 1980. In so doing, a portion of the preparatory tasks (cutting of linoleum, wallpaper, and other items) was carried out at Moscow enterprises and the items shipped in containers to the West Siberian construction project.

During the 11th Five-Year Plan, growth in construction volume will be stabilized or the volume will be reduced somewhat in various industrially developed regions of the country. This will be caused by a further intensification in the development of the socialist economy but also by the need to send ever greater capital investment to the establishment of new regional production complexes in Siberia. Consequently, more effective forms and methods for enlisting the capacity of construction organizations that are being freed in the more inhabited regions for work at the new TPK's must be worked out on the basis of using existing experience. It is desirable, in our opinion, to create within construction and installing associations or other organizations that are located in industrially developed regions, mobile specialized construction and installing subunits for permanent work in the new regions. In order to provide them with structure, articles, consolidated components, blanks, and so on, definite production-base capacity in inhabited areas should be allocated and it should be restructured to allow for the peculiarities of construction in the new regional production complexes. It is desirable that the ministries responsible for the various construction projects allocate tasks to these mobile subunits in five-year plans.

An important reserve for raising the investment-type capacity of the new TPK's is recruitment of additional skilled work force from industrially developed regions on the basis of the expeditionary or rotating-duty type method. This method is being used in some parts of the country by Minnefteprom, Mingazprom, Minneftegazstroy and Mingeo [Ministry of Geology]. Minneftegazstroy, for example, is recruiting up to 20,000 men per year for work at West Siberian oil and gas complex construction projects. These men will work under the expeditionary or rotating-duty type method, and it is further proposed to send up to 70,000-80,000 men from other parts of the country to this TPK. It is desirable that the construction ministries that are working in Siberia's regional production complexes create, where they have high-capacity contracting organizations, special expeditionary construction subunits (expeditionary trusts) for permanent work in the new areas. These ministries' head organizations at the TPK's could execute responsive local supervision over the activity of the expeditionary construction organizations.

At the same time, such an approach to the problem of building up investment capacity in regions of new industrial development is not without definite disadvantages. Additional funds are spent for transporting articles and structure and for deploying construction organizations from inhabited regions to the new TPK's. When

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constructional structure is shipped to remote regions, some of it arrives in an unsuitable state as a result of multiple transshipments.

In examining questions of capital investment effectiveness under these circumstances, it should be considered that construction is a subsystem of a regional production complex and, in the final analysis, the timely introduction of fixed capital into operation and the provisioning of a potential for speeded up involvement in the production of raw materials, fuel and energy yields more tangible results for the national economy. Often the introduction of a facility ahead of time at a new TPK will make it possible to obtain an economic benefit that is comparable to the cost of the facility itself. That is why, despite the necessity for allocating substantial resources for developing the production and social infrastructure in new regions and the increases in construction costs that are associated with the severe natural and climatic conditions, the remoteness of these regions and certain other unfavorable factors, and the additional expenditures for redeploying organizations and shipping materials and structure, the effectiveness, for example, of the West Siberian oil and gas complex is high, thanks to the accelerated involvement of oil and gas resources in the national economy's circulation.

The enlistment of investment capacity from industrially developed regions in order to form new TPK's should be viewed as an economic policy that is necessary for assimilating new, promising regions of Siberia, as well as the Far East and the country's European North. The concept of a regional investment complex is becoming inadequate with respect to the standard practices for categorizing the characteristics of these new processes. The concept of a investment potential for a regional production complex that includes investment branches of the economy that are located on the land of the given region, as well as the capacity of construction and other capital-creating enterprises and organizations that are recruited from other regions in a planned procedure, characterizes the support potential of the new TPK's more completely. Its level is defined not by a simple summation of this capacity, for it depends to a great extent upon the concrete organizational and economic forms of their use in construction practice. Because of this, improvement in the management of construction and of investment processes for creating fixed capital in a regional production complex emerges as an important factor in raising the TPK's support potential.

When elaborating interindustry, interregional and national economic problems, and also during integrated planning for developing regional production complexes, a specific-program approach, which supplements the existing system of industrywide and regionwide planning and management, becomes necessary. When forming TPK's, branch plans for developing industry and other spheres of the national economy do not always consider regional peculiarities in due measure, and, at times, the integrated use of the region's reserves and interdependencies of an interindustry nature are not considered. Each agency in regions being developed for the first time by industry often tries to create its own minimal infrastructure. As a result, transport arterials, construction-industry bases, boilerhouses and other facilities have to be enlarged or rebuilt in just 2 or 3 years after they have been erected.

Thus, 26 ministries and agencies are building at the West Siberian oil and gas complex. The pace of development of the social infrastructure and of erection of interdependent industrial enterprises, the production base for construction

organizations, and transport arterials and communications systems lags behind the pace of oil and gas recovery. For example, Surgut was built up with various reserved housing rayons (for oilfield workers, geologists, power-engineering workers, builders and railroaders), which led to an increase in all transport arterials, ineffective urban-development decisions, and increased construction costs for the city as a whole. Similar faults are also characteristic for other TPK's of Siberia, particularly the South Yakutia, West Amur and Sayany TPK's.

Notwithstanding the desirability of a programed approach to the establishment of TPK's, at the end of the 10th Five-Year Plan there were practically no developed, approved programs for developing complexes. In accordance with the CPSU Central Committee and USSR Council of Ministers decree about improving planning, USSR Gosplan was charged with working out, with the participation of Union-republic councils of ministers, USSR ministries and agencies, and the USSR Academy of Sciences, programs for solving large regional problems and for establishing and developing the most important regional production complexes. Each large social and economic development program includes two main subprograms--support and production. When forming TPK's in regions being developed for the first time by industry, it is precisely the support subprogram that defines development of the complex, not only for the initial period but also for a fairly long time, and it can be singled out as a self-contained program.

It has now become necessary to organize special control organs for realizing the support programs for the establishment of TPK's, which would enable the branch and regional aspects of controlling development of the complex to be combined more completely. They would determine, on the basis of the long-term program, the basic rates and proportions of five-year and annual plans for the economic and social development of TPK's, they would coordinate the branch plans of ministries and agencies that participate in development of the complex in accordance therewith, and they would provide for monitoring the realization of these plans.

Regular monitoring and analysis of progress in carrying out specific programs for developing a complex will enable the TPK control organ to work out recommendations on the development of all branches of the economy for the given region that are more rational from the national economy's point of view, and on the prevention of possible distortions when establishing the complexes.

As L. I. Brezhnev noted at the 26th CPSU Congress, "integrated sectorial subunits have been created in USSR Gosplan. The Commission of the USSR Council of Ministers on Questions of Development of the West Siberian Oil and Gas Complex and an inter-agency regional commission under USSR Gosplan, located in Tyumen', have recently been established. These are steps in the right direction. They will help to control regional production complexes better and to consider and combine regional and branch-of-industry interests better. This work must continue."

A large number of organizations of various ministries are, as a rule, doing construction and installing work at the new TPK's. This is connected with the existing specialization of construction ministries in the erection of definite types of facilities and with the need to preserve, for the present, the in-house method of construction, although in a somewhat changed form. In many cases the capacity of the contracting construction ministries in the new regions do not provide for fulfillment of the planned amounts of capital construction, timely introduction of production facilities and development of the social infrastructure, which compels



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client enterprises to establish in-house construction organs. Often such organizations are assigned as self-contained trusts or associations. Thus, in Glavtyumenneftegaz--the prime oil-industry organization in Tyumenskaya Oblast--there is the large association Zapsibneftestroy [Association for the Construction of Oil Industry Facilities in West Siberia], and within Tyumengazprom [All-Union Industrial Association of Tyumenskaya Oblast's Gas Industry] there are several construction and installing trusts.

It is desirable, when improving the structure for controlling construction in regions of new industrial development, to determine for each TPK the prime client and the prime contractor. However, it is not possible to do this in practice at multi-industry TPK's, in which construction and installing work is being carried out by organizations of a number of specialized construction ministries. In this case, prime organizations at the main administration or association level, or, in some cases, a production-control organ of the ministry, should be identified for each construction ministry. Thus, for coordinating the activity of Minneftegazstroy construction organizations in the West Siberian oil and gas complex in Tyumen', a functional Main (Territorial) Production-Control Administration was created in Tyumen'. This enabled the ministry to concentrate in this organ the solution of many production-control questions, including provisions for monitoring the progress of construction of the most important facilities, responsive supervision over construction organizations recruited from other regions, and the coordination of hauling by rail, water and air transport.

Client services at TPK's are at present basically decentralized, and the grant-receiving bodies are practically all independent enterprises. It is necessary to centralize these services in accordance with the specialization and responsibility of the associations and the main administrations of ministries and agencies, also taking into account requirements for the integrated build-up of the region. This will enable the construction of large industrial clusters to be organized, the auxiliary production facilities of various agencies to be amalgamated, and enterprises of greater capacity to be built. It is desirable that each industry in a TPK have one client.

In order to regularize the structure for controlling construction in a regional production complex, the organ for planning control of the TPK can perform general coordination of the activity of prime enterprises and organizations of the clients and contractors within the framework of the long-range support program and of plans for the complex's economic and social development.

It must be considered that not only does construction play a determining role in the development of new TPK's but the Territorial Production Complexes also help to increase the effectiveness of construction. The existence of a long-range support program for developing the complex enables capital investment for the TPK to be planned more rationally (not allowing the investment to be dispersed over numerous construction facilities) and capital investment to be balanced with the capabilities of the construction organizations and with the supply, equipment and labor resources, including those in interregional use. In so doing, the necessary coordinations and the compilation and approval of technical feasibility studies for the construction of the new facilities are greatly simplified.

Within the system of measures for speeding up the introduction into operation of production capacity and facilities and for raising the effectiveness of capital investment that were called for by the CPSU Central Committee and USSR Council of

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Ministers decree about the improvement of planning, it is desirable to gradually convert various industries to the construction of enterprises (or structures) through credit granted by USSR Sroybank to the contracting construction and installing organizations in the amount of the full cost of building the enterprise (or structure) upon turnover of the finished enterprises (or structures) to the client in turnkey fashion.

It must be noted that construction ministries have at their disposal potentials for organizing turnkey construction that are far from identical. In our opinion, in order to begin this work, ministries that work with a limited number of clients should above all be specialized by type of construction. In particular, in the West Siberian oil and gas complex it is desirable to convert Minneftegazstroy to turnkey construction. The organizational prerequisites for introducing this method have already existed in the Sibkomplektmontazh association, which not only produces modular installations and outfitted structure at its enterprises and provides for the erection of production capacity out of them, but also, jointly with SibNIIgazstroy [Siberian Scientific-Research and Design Institute for the Construction of Gas Industry Enterprises], designs new types of these installations, and it will also, beginning in 1982, outfit with equipment the facilities that it has erected with its own forces.

At the first stage Minneftegazstroy could perform integrated design, construction and equipment outfitting for trunk oil and gas pipelines and turn them over in turnkey fashion to the client, in unison with the oil-pumping and compressor stations, after industrial tests have been held. Transferring the functions of pipeline design to the construction ministry will enable the solution of such important problems as land allocations, choice of optimal routes, the execution of preparations for construction, a rise in the technical and organizational level of construction operations, and the introduction of progressive industrial methods for flowline performance of operations by large mechanized complexes to be speeded up. The activity of outfitting organizations within the contracting ministry will conform with a single plan, and deadlines for shipments in this case will be more closely correlated with plan deadlines for installing equipment and introducing facilities into operation.

The terms for the functioning of production within the framework of the TPK's will help greatly the development of cost-accounting relationships in construction. Based on the long-term support program for developing the complex and on stable five-year plans, a potential for establishing long-term cost-accounting ties and for concluding standing agreements among participants of the support process is provided for. Economic agreements are now concluded basically by construction and installing trusts and client production associations (or enterprises), and also between trusts and subcontracting organizations. Since at large TPK's a large number of such organizations participate in the long-term support process (for example, in the West Siberian oil and gas complex more than 80 trusts and subunits equated to them, many separate subcontracting construction administrations and cost-accounting sections, and a substantial number of client enterprises are assigned), these ties are numerous. It is desirable to concentrate conclusion of the basic economic agreements on the level of the prime organizations for their industries at the TPK, which, as a rule, include organizations of the middle control element.

With conversion to the turnkey method for building facilities, objective grounds are established for further wide development of cost accounting in construction

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organizations. This method is the highest form of organization of the support process in the modern era, creating favorable conditions for developing such underlying principles of cost accounting as self-supportiveness, material incentives, and responsibility of the collective for the final result of the enterprise's economic activity. The construction organization will emerge in this case as a commodity producer that meets definite social needs for the construction product and accomplishes its activity under full cost accounting.

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Siberia's Special Economic Role

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[Article by A. Granberg, doctor of economic sciences, professor and deputy director of the Institute of Economics and Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences: "The National Economic Effectiveness of the Accelerated Development of Siberia's Productive Forces"]

[Text] The long-term social and economic strategy of the party and the Soviet Government calls for accelerated development of the productive forces of the country's eastern regions and an enhancement of their role in the national economy. The trip of CPSU Central Committee General Secretary, Chairman of the USSR Supreme Soviet Presidium Comrade L. I. Brezhnev to these regions in the spring of 1978 was of great significance in fulfilling party and economic decisions on the integrated development of the natural wealth and the development of the productive forces of Siberia and the Far East. In December 1978 the most important problems in developing Siberia's productive forces and speeding up the introduction of scientific developments of the SO AN SSSR [Siberian Department of the USSR Academy of Sciences] were discussed at an expanded session of USSR Gosplan.\* In June 1980 an All-Union Conference on the Development of Siberia's Productive Forces, which produced detailed recommendations, was held in Novosibirsk.

The problems of speeded-up build-up of the economic potential of the country's eastern regions were given much attention in the discussions of the draft of "The Main Directions for Economic and Social Development of the USSR During 1981-1985 and During the Period up to 1990" and in the work of the 26th CPSU Congress.

The trend in the development of Siberia's economy at an overwhelming pace has been firmly manifested over the past two decades. Siberia's share in the country's economic potential has steadily increased. While in 1965 its share was 8.1 percent in the gross social product and 7.5 percent of the national income produced (net output), by the end of the decade, according to the calculations of IE i OPP [Institute of Economics and the Organization of Industrial Production] of SO AN SSSR, Siberia's gross social output was about 9.5 percent, and national income produced was more than 10 percent of the All-Union volume. During this same period Siberia's share in gross output of industry increased from 8.1 to 9-9.5 percent; capital investment used increased from 11.5 to 13-14 percent, and freight turnover for

\*See: "The Accelerated Development of Siberia's Productive Forces Is a Most Important National Economic Task," PLANOVOYE KHOZYAYSTVO [The Planning Activity], No 3, 1980.

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all types of transport rose from 13.7 to 17-18 percent. The annual volume of Siberia's industrial production now greatly exceeds the annual output of all USSR industry on the eve of the Great Patriotic War.

At the end of the 1960's Siberia entered the group of the more developed regions of the country, according to level of economic development. Back in 1965 it lagged behind the Union average in amount of national income produced per capita by about 10 percent; but already in 1975 it surpassed this by about 16 percent (according to an evaluation by IE i OPP SO AN SSSR).

During four five-year plans (from the 7th through the 10th), all the basic industries of the national economy, except for agriculture, developed at a more rapid rate in Siberia than they did on the average for the USSR as a whole. During 1961-1978 industrial production in Siberia rose 4.1-fold, at a time when it had risen 3.8-fold for the country as a whole. In so doing, the annual pace of growth of gross output of industry during 1961-1975 was only one-sixth of the All-Union average (in 1963-1966, 1969 and 1977), which was explained as the result of a poor crop and a sharp drop in the introduction of new production capacity. The average annual rate of growth of industrial production in Siberia during this period was 8.2 percent, but for the USSR as a whole it was 7.7 percent. If the 6 years that were noted above as unfavorable are excluded, then the average annual rate of growth was 9.1 percent, which is 1.18-fold the All-Union rate.

The overwhelming rate of growth of Siberia's industrial production is determined mainly by the development of group A industry, primarily branches of the fuel-and-power complex, nonferrous metallurgy, and the chemical, timber, wood-processing and pulp-and-paper industries. For example, during 1961-1978 the generation of electricity rose 6.4-fold in Siberia but 4.5-fold in the country as a whole; output of the fuel industry increased, correspondingly, 4.8-fold and 2.7-fold, chemical industry output 8.1-fold and 7.1-fold, and output of the timber complex 2.45-fold and 2.3-fold. During this period the production of light-industry articles rose more rapidly (3.5-fold) in Siberia, 2.4-fold for the whole country. This, however, was achieved mainly by a sharp jump during the Eighth Five-Year Plan (the increase was 1.8-fold).

As a result of changes in locating the country's productive forces in the past 15-20 years, Siberia's specialization in the production of fuel and raw materials has intensified. Thus, in 1978 Siberia yielded 10 percent of all rolled ferrous metal, 44.5 percent of all petroleum, 28 percent of all natural gas and casing-head gas, 31 percent of all coal, 17.5 percent of all electricity, 22 percent of all commercial timber, and 19 percent of all lumber. Siberia's share in providing for All-Union growth in the production of fuel, nonferrous metals, forestry products and a number of chemical industry products was still greater.

As a consequence of its special functions in the nationwide regional division of labor, Siberia has major peculiarities in the breakdown of the production structure and in the dynamics thereof. The share of the extractive industries in Siberia exceeds the USSR average almost 2.5-fold. In this case, unlike the nationwide trend, the pace of growth of the extractive industries in Siberia cedes little in pace of growth to the processing industries over a long period, and in some years of the 9th and 10th five-year plans it even exceeded it. It is known that the development of machinebuilding and chemicals influence the magnitude of the rate of growth of USSR industry as a whole to a great extent. In Siberia the fuel industry, especially its oil and gas subbranches, have begun to play this role in

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the last decade. The following computations are indicative. If the fuel industry is excluded from the gross output of Siberian industry, the average annual pace of industrial production during the Ninth Five-Year Plan is reduced from 8.2 percent to 7.8 percent, and for 1976-1978 it falls from 5.6 percent to 4.7 percent. In the nationwide computations, that same operation leads to a contrary change--the pace is increased. These facts speak about the need for a thorough analysis of the structural peculiarities of the region's economy when evaluating the results of its previous development for purposes of long-range planning.

The creation of a support base for heavy industry in the Kuzbass [Kuznetsk Coal Basin], the industrial belt along the Transsiberian Mainline, the main oil and gas recovery base in West Siberia, and large multi-industry regional production complexes in the Angara-Yenisey region has great significance. As L. I. Brezhnev noted in the Accountability Report of the Central Committee to the 26th CPSU Congress, "...the industrial conquest of the new regions is important in both social and political plans."

However, in developing Siberia, important deficiencies and disproportions are also observed that seriously impede the overwhelming growth of the region's economy in the interests of the harmonious development of the country's single national economic complex. Over a period of several five-year plans, the pace of growth of Siberia's industry has proved to be lower than called for by the plans. Unfortunately, during the 10th Five-Year Plan this trend was not overcome: it was planned to increase gross output in Siberia 1.5-fold, but it actually grew by about 1.3-fold.

In Siberia a number of branches of the economy and production facilities for which there are favorable economic prerequisites, especially in being provided with fuel, energy, mineral raw materials, water and geological resources, are not being developed rapidly enough. Thus, the chemical industry is being developed unevenly. During the Eighth and Ninth five-year plans, the rate of its growth in Siberia was lower than the All-Union average. As a result, Siberia's share was reduced considerably in nationwide production of mineral fertilizer (from 5.9 percent in 1965 to 2.6 percent in 1978), synthetic resins and plastics, chemical fibers, and a number of other most important types of output.

An unfavorable trend has prevailed in the development of Siberia's electricity. Because of a stretchout in periods of hydroelectric-power construction and delays in the erection of new thermal electric-power stations, the average annual rate of growth in the generation of electricity fell from 16.9 percent during the Seventh Five-Year Plan to 12.2 percent in the Eighth, to 7.6 percent in the Ninth, and to 4.6 percent in the first 3 years of the 10th Five-Year Plan, becoming even lower than the industrywide pace. As a result, Siberia converted from a region of substantial power-capacity reserves to the group of regions with a deficit of electricity, as a consequence of which the siting of a number of power-intensive production facilities was slowed. The share of Siberia in increases in the production of paper, plywood, furniture and other highly valuable output made of wood is unjustifiably low. In particular, during the Ninth Five-Year Plan only 1.1 percent of the All-Union growth in paper production was obtained, and in 1976-1978 the figure was 2 percent.

Siberia's agriculture has been developed more slowly in the past 20 years than on the average for the country, and there were considerable fluctuations. As a

result, Siberia's share in the USSR's agricultural production has been reduced somewhat: this is characteristic also for the production of a number of important food products. This has aggravated qualitative improvement of the Siberian populace's foodstuffs supply. Overcoming the indicated deficiencies is an important part of the long-term program for Siberia's social and economic development.

For clarification of the question of the effectiveness of Siberia's economy and the trends in its development, it is not enough, in our opinion, to rely upon individual industrial and regional indicators for the economic effectiveness of production. The whole mechanism of the functioning of the given region as a single economic complex must be studied. For this purpose IE and OPP SO AN SSSR is using a special interregional model of the USSR's national economy, by means of which different variants of Siberia's economic ties with other parts of the country are analyzed. As a consequence of mathematical-economics modeling it has been established that the inclusion of Siberia in the All-Union regional division of labor raises the final effectiveness of the national economy (in terms of amount of national income or of the fund for nonproductive consumption by the population) by 25-30 percent, that is, Siberia's contribution to the final national-economic effect exceeds 2.5- to 3-fold its direct share in the country's gross social product, national income, and consumption fund (measured in existing prices). A retrospective analysis conducted by means of a model indicated also that reduction in the pace of development of Siberia and the intensiveness of its interregional ties would have reduced considerably the absolute level of the USSR economy's effectiveness.

The effectiveness of the modern economic complex of Siberia is confirmed also by synthetic economic indicators. Thus, according to IE and OPP SO AN SSSR calculations, the productivity of social labor in Siberia is now 1.2-fold above the All-Union average (where net output is measured at existing prices). The yield on fixed productive capital for Siberia as a whole is lower than the All-Union average, but this is explained to a great extent by the higher share of especially capital-intensive industries (the extractive industries, power-engineering and transport) and also by the higher cost of evaluation of assets and the necessity for a higher capital-labor ratio for purposes of savings of the work force, which is in short supply.

When analyzing regional indicators of economic effectiveness, it should be borne in mind that when existing prices are used, the effectiveness of Siberia's economic complex is artificially understated. This is explained by the fact that the wholesale prices that are in effect for fuel, materials, and many raw materials produced in Siberia have been changed but little since 1967, and right now it is understated considerably in relation to socially necessary expenditures. It should be expected that, with conversion to the new wholesale prices being introduced during the 11th Five-Year Plan, the indicators for the region's share in the production of gross output and national income of the USSR, and also the synthetic indicators of economic effectiveness, will be increased appreciably, by 20-30 percent as a minimum.

The main factor in the effective development of Siberia's production forces is the presence here of the richest fuel-and-power resources, mineral raw materials, and forestry, water and land resources. They will enable the extraction and processing of diverse mineral and biological raw materials to be performed on a broad scale, and energy-intensive and water-intensive production facilities to be created, which will considerably surpass similar production facilities of the European portion of

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of the USSR in their technical and economic indicators. Moreover, the high concentration and the combining of diverse natural resources will facilitate the creation in Siberia of especially large production facilities and the use of more effective forms of regional organization of the economy (regional production complexes and industrial clusters), which will yield an additional agglomerating effect.

At the same time, attention must also be given to a number of objective natural, geographic, economic and social factors that complicate the economic development of Siberia and that reduce the efficiency of its development. These include:

Inadequate provisioning with labor resources in comparison with other parts of the country and great complexities in acquiring them from other regions;

More difficult natural and climatic conditions, which increase production costs (especially in construction and agriculture) and expenditures for reproduction of the work force and which complicate conditions for worker activity in some areas, thereby requiring compensating social measures and higher expenditures for wages, the social and personal-amenities infrastructure, the system of services, and so on, in order to provide living conditions that are equal to those in other parts of the country that have conditions more favorable from the natural and geographic standpoint;

Poor economic development of some regions, which makes huge capital investment in regionwide development and in social infrastructure a necessary condition for industrial development;

The remoteness of parts of Siberia from the more economically and culturally developed centers of the country. This provokes increased expenditures for transporting the means of production and finished output, as well as for travel by the population, the creation of a system for services, and so on; and

Reduced resistance of the natural environment against anthropological loads and poorer capabilities for self-renewal of the air and water basins, the soil and biocenoses.

However, the effect of the negative factors indicated is far from identical in the different parts of Siberia, and in different industries and production activities. They are manifested mainly in northern parts of Siberia, particularly in the Far North--the arctic and subarctic regions of Tyumenskaya Oblast and Krasnoyarskiy Kray. Construction costs are increased here 3-fold, and the full expenditures for wages (taking northern privileges into account) are 2-fold to 3-fold those of the country's central and southern regions; the buildup of facilities for one worker requires up to 20,000 rubles; and the distance from economically developed regions is up to 1,500-2,000 km. Therefore, in the absence of regular and reliable transport communications, the share of transport expenditures in prime production costs is increased by up to 60 percent, and full production expenditures grow accordingly. Since Siberia's northern regions are, as a rule, narrowly specialized in the extraction, primary processing and transporting of unique types of natural resources, the effect of the negative factors on economic development is localized to a great extent, not only geographically but also to a restricted number of production activities.

The exploitation of high-flow oil and gas fields in the Tyumen' North, of ore bodies with a high content of nonferrous metals and rare-earth metals in the Noril'sk region, of high-quality timber reserves in the Lower Angara region, and so on, is economically justified even where there very high expenditures for the economic development of these regions and for organizing haulage of the output.

A more typical example of the economic effectiveness of new production activities in regions difficult of access is the establishment of the West Siberian oil and gas complex, where oil recovery has reached 312 million tons, and natural-gas recovery has reached up to 156 billion cubic meters in three five-year plans. The amount of capital investment embodied in this complex exceeds the total amounts for large regions and industries. During the Ninth Five-Year Plan alone more than 22 billion rubles were spent.\* For the construction of just one strand of trunk pipeline 1,420 mm in diameter, having a pressure of 75 atmospheres, to the central regions of the country requires the expenditure of 3-4 billion rubles, including more than 6 million tons of metal. However, the energy capability of the gas being transmitted exceeds here the capacity of all the GES's erected on the Yenisey and Angara. The enormous expenditures for assimilating the oilfields of the Middle Ob' are exceeded by the economic advantages of the wells' high flow rate, which surpass 2-fold to 3-fold the average for the USSR's oil-recovery industry. According to Academician A. G. Aganbegyan's evaluation, 1.7 billion tons of hydrocarbons (in an estimate based on crude oil) were taken from West Siberian ground during the 10th Five-Year Plan. Despite the exceptionally high capital investment, its economic effectiveness was much higher than for the country on the average.\*\*

The southern zone of Siberia comes close in its natural climate and level of economic development to the environment of parts of the European portion of the USSR. In particular, the wage coefficient here is 1.15-1.2, and the increase in construction costs does not exceed 10-15 percent, there is a fairly well-developed infrastructure, and it has its own production base. Therefore, it is easier to create economically effective production here on the basis of local natural resources and of the production, scientific and technical potential that has already been accumulated here, as well as on the basis of production cooperation with the northern regions.

Coal mining in the Kuznetsk and Kansk-Achinsk basins, the production of electricity at large hydroelectric and thermal power stations, the integrated processing of timber, the mining of ores and many types of quarried raw materials, the energy-intensive production facilities for ferrous and nonferrous metals, and the large-scale output of chemicals and petrochemicals have higher economic effectiveness in the southern zone. An increase in Siberia's share in the production of these types of output reduces average industry outlays considerably. For instance, bringing the mining of Kansk-Achinsk coal up to 100 million tons reduces the average prime cost of coal by almost one-fifth and increases by a fourth the average labor productivity of the coal industry. Aside from the advantages of the indicated production activities, the production of cast iron and steel, grain, meat, milk and potatoes is cheaper at present in Siberia's southern zone than it is for the country

\*V. Filanovskiy. "The West Siberian Oil and Gas Complex: Results and Promise." PLANOVVOYE KHOZYAYSTVO, No 3, 1980.

\*\*A. G. Aganbegyan. "Economic Problems of the Development of Siberia." EKONOMIKA I MATEMATICHESKIYE METODY [Economics and Mathematical Methods], Vol 15, No 5, page 844.



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on the average. Computations for branches of the economy indicate the economic feasibility of siting a number of machinebuilding facilities, especially metals-intensive ones, in Siberia.\*

It should be recognized that under current conditions the relative effectiveness of developing production facilities in Siberia is reduced with the progression from primary industries (the extraction of natural raw materials) to industries that produce transportable output for final consumption. The economic desirability of expanding the production of final output (for example, of light industry and machinebuilding) is restricted also by the available labor resources and construction capacity. The effectiveness of the Siberian economic complex can be provided for, provided there is development of:

The extraction and transporting of natural resources up to the levels required for satisfying the country's needs and for export;

Production facilities of All-Union specialization for the integrated processing of natural raw materials--electric power, metallurgy, chemical industry, the wood-processing and pulp-and-paper industries, and so on; and

Production facilities that integrate and supply the requirements of industries that specialize for All-Union purposes and of the region's population (construction and the construction industry, transport, the foodstuffs complex, certain machinebuilding and repair production facilities, the production of certain types of consumer goods, and the services' sphere).

There are bottlenecks in developing the Siberian economic complex that hamper it and reduce economic effectiveness.

A lagging sector in developing the region's economy is the construction complex. In Siberia the construction cycle is longer than the average for the country, in practically all branches, even in regions that do not lie in the northern belt, so the amount of uncompleted construction grows swiftly. These faults are explained only partially by objective conditions--the dispersion of facilities being built and the more severe climate. Organizational factors (construction's isolation from officialdom, the lack of a prime client in the regional complex and industrial clusters being formed, and so on) and errors in interindustry capital investment distribution are of considerable importance. The share of the latter in the Siberian construction complex over an already lengthy period is at least 25 percent less than for the country on the average. The lack of a construction base is especially telling on the regional production and social infrastructure, complicating the situation with regard to transport support, engineering equipment for the region, and housing, social and cultural facilities construction.

Despite railroad construction (the BAM [Baykal-Amur Mainline], the Tyumen'-Surgut-Nizhnevartovsk and Surgut-Urengoy lines, and others), and the construction of a network of trunk pipelines and highways, which has been speeded up in recent years, Siberia lags severalfold behind the Union-average level in transport provisioning. The amount of unexported freight builds up, and the delivery of freight to final

\*See G. Kurbatova. "Problems of Developing Machinebuilding in Siberia." PLANOVYE KHOZYAYSTVO, No 3, 1980.

customers is being slowed. The use of modern communications and of air transport for large-scale haulage in conquering the North greatly increases transport outlays.

Siberia's machinebuilding does not adequately effect a rise in the technical level of the region's economy, since it is poorly oriented to satisfying the needs of the region's main industries, especially for machines and equipment adapted for operation under local conditions. More than 70 percent of all the machinebuilding output produced is exported to other regions, although a portion of it is, in principle, needed for the effective assimilation of Siberia's natural riches. For example, few enterprises that use electrotechnology processes are being created in Siberia, notwithstanding the economic desirability of doing so, while at the same time Novosibirsk's Sibelektroterm [Siberian Association for the Production of Electrothermal Equipment] is outfitting with its equipment enterprises that are being built in energy-short regions of the European part of the country. It is obvious that exporting from Siberia a substantial portion of the machinebuilding output that is produced aggravates the deficit of labor resources. On the other hand, equipment that is low in labor intensiveness but that is metals intensive, large in dimensions, and poorly transportable is being imported from the western regions (for the extractive industry, power-engineering, metallurgy, the timber and chemical industries, and agriculture), which, for a number of reasons, it would be desirable to produce in Siberia. Thus, the structure of the modern Siberian economic complex is not adequately balanced. The elimination of this deficiency is one of the large reserves for raising economic effectiveness. Most important directions for raising the effectiveness of Siberia's economic complex are also the systematic conduct of a labor-saving engineering policy, the execution of social measures that will help to attract and to retain a skilled work force, and improvement in regional planning and management, especially in regions being assimilated for the first time. The problem of mobilizing reserves is common to the whole national economy, which is taking up the path of intensive development. But in the Siberian economy, the potential for intensification is identified more clearly, and the realization thereof should yield relatively great benefit.

The pace and proportions of the social and economic development of Siberia, for both the near and long terms, should be defined within the framework of the general concept of the country's regional development. This standard-procedure principle for regional planning is especially important for the Siberian economy since, in the long term, the trend toward mutually related development of the USSR and Siberia will be intensified. On the one hand, the pace and structure of the Siberian economy react to changes in the factors and conditions of nationwide development to a greater extent than other regions do, particularly to fluctuations in energy and raw-materials requirements, a reduction in the increase in labor and capital-investment resources, the acceleration or slowdown of scientific and technical progress, and changes in the foreign-trade structure. On the other hand, the dynamics and structure of the national economy are being determined to an increasing extent by the pace and effectiveness of the development of Siberia's productive forces, primarily by the intensity of bringing that region's natural resources into use by the economy.

"The Main Directions for Economic and Social Development of the USSR During 1981-1985 and During the Period up to 1990," which was adopted by the 26th CPSU Congress, contains the fundamental rules on the strategy for developing Siberia's productive forces within the system of a single national-economic complex: accelerated growth

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of the fuel industry, electric-power, nonferrous metallurgy, and the chemical, petrochemical, timber, pulp-and-paper, wood-processing, microbiologicals and construction industries, and strengthening in every possible way of the foodstuffs base through an uplift of agriculture and of industries that process agricultural raw materials.

A most important conclusion of the research that has been conducted can be formulated as follows: in the interest of maintaining dynamic and balanced growth of the USSR's economy, the Siberian economy must be developed at an outpacing rate. Thus, numerous computations carried out by IE and OPP, by means of optimization interregional, interbranch model (in which all regions and combined branches of the economy are represented), substantiate the fact that the average annual rate of growth of production in Siberia should exceed the national average 1.2-fold to 1.4-fold. The indicated gap by which the pace of Siberian development should exceed that of the Union average is optimal, that is, it provides for a maximum level of achievement of the main purposes of the country's social and economic development (for example, maximization of the pace of growth of national income of the consumption fund). This gap remains firm where there are considerable changes in the conditions of impending development.\*

The following important circumstances were clarified in an analysis of the consequences of deviating from the optimal ratios in pace of growth of Siberia's and the USSR's production. Harm to the national economy from deviations in the pace of development of Siberia are not identical in the various aspects. With rise in the rate of Siberia's economic development, the optimum nationwide pace is decreased insignificantly (because of the acquisition in Siberia of production facilities that could have been sited in other regions with greater benefit). With a reduction in Siberia's pace below the optimum, the curve of the nationwide pace is reduced sharply. The latter circumstance is explained as follows. Reduction in the pace of growth of Siberia's gross output (or of net output) is reflected almost at once in the scale of development of industries specialized on a nationwide basis. But since a reduction in the output produced by these industries in Siberia cannot be completely compensated for by a decrease in the production in other regions, it leads to a considerable reduction in the pace of the nationwide economy.

According to our computations, Siberia's share in nationwide production (in gross social product, national income, and gross output of industry) will grow substantially in the next 10 years. The prerequisites for this are an increase in Siberia's share of nationwide capital investment, as well as the implementation of a labor-saving engineering and social policy that will provide for a higher pace of labor productivity, more rational distribution of the pace by branch and production facility, and the retention of personnel. The computations indicate that labor productivity growth will yield more national economic benefit in Siberia than in other regions of the country (with the exception, apparently, of the Far East alone), and this will also justify economically higher expenditures for machinery

\*A number of "scenarios" of Siberian development within a single national-economic complex, which differ in hypotheses as to change in labor productivity, materials intensiveness, capital intensiveness, population migration, and the organization of transport ties between West and East, were studied. An outstripping development of Siberia's economy is the common feature of all the variants that were studied.

and equipment, which releases work force. The same relates also to social measures for stimulating labor productivity and for recruiting and retaining labor resources.

All-Union specialization in Siberia should be intensified over the long term. In accordance with "The Main Directions for Economic and Social Development of the USSR During 1981-1985 and During the Period up to 1990," Siberia will provide for the country's entire growth in fuel through further development of the West Siberian oil and gas complex and the Kuznetsk and Kansk-Achinsk coal basins, with the later involvement of the oil and gas resources of East Siberia. The erection of a series of high-capacity electric-power stations at KATEK [Kansk-Achinsk Regional Electric-Power Complex] and electric-power stations in Tyumenskaya Oblast that operate on casing-head gas and surplus gas, and the introduction into operation of the Sayano-Shushenskaya and the next GES of the Angara-Yenisey cascade will greatly raise Siberia's share in the production of electricity. This will create favorable possibilities for the development of energy-intensive production facilities and the transfer of part of the energy to the Urals and to the country's European portion. The siting in Siberia of an increasing portion of growth in the mining of mineral raw materials and in logging will continue.

However, unlike the preceding period, when the preferential growth of the Siberian economy was achieved mainly through the extracting and initial processing stages of production, during the 11th and 12th five-year plans the center of gravity will be shifted to the stage of intense and integrated processing of raw materials--the development of ferrous and nonferrous metallurgy (especially electricity-intensive processes and conversions) and the chemical and pulp-and-paper industries. The chemical industry will make the greatest contribution to the "Siberian speedup." The main portion of the All-Union growth of diverse semifinished output and of finished products of organic synthesis will be obtained at the Tomsk, Tobol'sk and Achinsk petrochemical giants, gas-treatment plants at Tyumen', and at other new enterprises. L. I. Brezhnev's report to the 26th CPSU Congress posed the question of organizing the production of artificial liquid fuel based on Kansk-Achinsk Basin coal. The establishment of production facilities for potash and phosphorus fertilizers will be of great significance for intensification of Siberian agriculture.

The construction of large machinebuilding enterprises oriented to satisfying the region's requirements for special machinery and equipment has started in Siberia, and more is contemplated. These include the Krasnodar Heavy Excavator Plant, the Abakan Plant for the Production of Load-Lifting Railroad Cars and Containers, the plant for heavy-duty trailers for KamAZ trucks, a complex of enterprises for the electrical-equipment industry near Minusinsk, plants for producing chemical and oil-refining equipment, mining equipment for underground operations, power-generating boilers, and so on. During the 11th and 12th five-year plans, along with the construction of new enterprises, there is to be intense respecialization of articles of the main machinebuilding centers, with a view to intensifying the role of local machinebuilding in raising the effectiveness of the whole Siberian economic complex.

The program for speeded-up development of production in Siberia relies upon a system that will provide scientific, technical, social, ecological and economic-organization measures. The strategy for implementing this program includes such elements as anticipatory development of the construction base for the transport system and for the social infrastructure; a strengthening of the local foodstuffs base; execution of a regional engineering policy that is adapted to specific

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Siberian conditions; anticipatory scientific preparation of the region being mastered for the first time, including research, geological exploration, surveying, design and design-development, and industrial-test operations. In the area of social policy, certain preferences in the level of satisfying basic requirements are to be created for the Siberian populace by a priority increase in income, the improvement of commodity supply and of housing, social and cultural construction, development of the services sphere, and so on.

The 11th Five-Year Plan is an important step in executing the long-term program for the accelerated development of Siberia's productive forces, raising its importance in the single national-economic complex. During that period, major economic manipulations to concentrate resources at the decisive sections of the Siberian economy, the elimination of bottlenecks that have been formed in the region's economic complex, and the creation of the supply, equipment and social prerequisites for later accelerated and balanced economic growth are called for.

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